



## INSTRUCTIONS – VANQUISH MG DIFFERENTIAL REPLACEMENT KIT – PMTR1028

Fit & finish on the Vanquish MG Can-Am cars is quite good, but the differential assembly in the cars is not completely reliable, somewhat spoiling the fun of racing these unique beauties. The basic issue is that Vanquish depends on the stiffness of a plastic chassis to hold all the rear end gears in place relative to the motor pinion & unfortunately side loads when cornering and accelerating can easily overwhelm what the chassis can provide. To solve that issue we have developed a “diff replacement” kit that allows a normal inline gear and solid axle to be used in the back of the car, greatly improving the durability of the drivetrain & thus the number of hours you can spend racing & enjoying these unique cars.

Before we begin, here is what we recommend you will need to make the successful transformation to a “diff-less” Vanquish car.

1. **A new motor is needed** – the fundamental change here is that the motor shaft **MUST** extend beyond the end of the pinion to pilot the axle gear. Since the Vanquish motor does not do that you need to pop their motor out of the chassis and replace it with a longer shaft motor. The replacement motor is not included in this kit. Possible candidate motors for the direct replacement in the Vanquish chassis include : Slot.it “Boxer” SIMN02, Ninco Motors – NC-2, NC-3, NC-4, NC-5 and NC-7 (NC-7 only if the motor shaft is shortened) and other similar form factor motors.
2. **Tools** – basic hobby tools including screw drivers, needle nose pliers, super glue, hobby oil & a light Teflon style grease to lube the gears

Step by step instructions follow to make the swap – start by removing the original diff & motor :



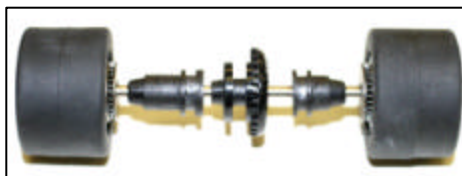
Pop out the rear end assembly with a small screwdriver and in a similar way (using your fingers) remove the stock motor. When replacing the stock motor carefully trim and route the lead wires similar to the stock manner, otherwise it will be difficult to remount the body. On some motors that have an inline resistor you may need to relocate or remove that resistor to prevent body interference.

Next, remove the wheels and brake rotor assemblies from the diff by tightly holding one side of the diff axles as shown in the picture below, twisting the wheel & tire to break it free from the axle :



After removal from the diff, save the wheels, tires, brake rotor assemblies, and the cone shaped plastic cups that the diff axles pass through on either side, those parts will be reused.

Next, reassemble the rear end using the diff replacement kit as shown below. Make sure the 2 plastic cone shape parts are assembled on the one-piece axle, relative to the gear, as shown in this picture. When you twist the wheels back on this axle you will need a drop of super glue to hold the wheel and tire assembly and the brake rotor plastic parts in place. Be sure to fully press the wheels and tires onto the axle until they bottom out so they will be properly centered on the car when reinstalled. When the motor is installed make sure the axle turns freely – in some cases the motor pinion may need to be pushed on further towards the motor to prevent binding on the axle gear. Use your hobby oil to lube the axle and motor rotating parts and add some Teflon grease to the axle gear and pinion before running. Reassemble the complete car & have some fun !



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